

CLAIMS

What is claimed is:

- 5 1. A method of managing browser sessions, comprising:
- receiving a request for a web page from a client, the client having a browser
 session established at another server; and
- providing a web page including a heartbeat page element that transmits
 heartbeat messages to the another server to maintain a state of the browser session at
10 the another server.
2. The method of claim 1 further comprising:
- providing a monitor in the web page that detects whether the another server is
 available from responses to the heartbeat messages.
- 15 3. The method of claim 1 wherein the web page further includes a page identifier, and
 the method further comprises:
- providing a monitor in the web page that detects user inactivity if the page
 identifier is unchanged for a predetermined time.
- 20 4. The method of claim 1 wherein the web page further includes a state identifier, and
 the method further comprises:
- providing a monitor in the web page that detects server unavailability if the
 state indicator is invalid for a predetermined time.
- 25 5. The method of claim 1 further comprising:
- accessing data from the state of the browser session being maintained at the
 another server by transmission of the heartbeat messages.

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6. The method of claim 1 further comprising:
 - providing a proxy page element in the web page;
 - receiving a request for a partial page update from the proxy page element in response to an event triggered in the web page;
 - 5 communicating modification instructions to the proxy page element for the partial page update to page content in the web page, the modification instructions affecting less than the entire page content in the web page.
7. The method of claim 1 wherein the heartbeat page element is a Frame element, an
10 IFrame element, or a Layer element.
8. A method of managing browser sessions, comprising:
 - establishing a browser session at a first server, resulting in generation of a session state at the first server;
 - 15 redirecting from the browser session at the first server to a web page at a second server;
 - receiving the web page from the second server, the web page including a heartbeat page element; and
 - transmitting heartbeat messages from the heartbeat page element to the first
20 server to maintain a state of the browser session while continuing to communicate with the second server.
9. A method of managing browser sessions, comprising:
 - providing a web page including a page identifier and a monitor that detects
25 user inactivity if the page identifier is unchanged for a predetermined time.
10. A method of managing browser sessions, comprising:
 - providing a web page including page content having a state identifier and a monitor that detects server unavailability if the state identifier is unchanged for a
30 predetermined time.

11. A system of managing browser sessions, comprising:
- a first server and a second server providing individual processes of a common workflow;
 - 5 the first server establishing a browser session with a client, resulting in generation of a session state at the first server;
 - the first server redirecting the client from the browser session at the first server to a web page at the second server;
 - the second server receiving a request for a web page from the client;
 - 10 the second server communicating the web page to the client, the web page including a heartbeat page element; and
 - the first server receiving heartbeat messages from the heartbeat page element, resulting in maintenance of the session state at the first server while the client communicates with the second server.
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12. A system of managing browser sessions, comprising:
- a server communicating a web page to a client, the web page including a page identifier and a monitor that detects user inactivity if the page identifier is unchanged for a predetermined time
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13. A system of managing browser sessions, comprising:
- a server communicating a web page to a client, the web page including page content having a state identifier and a monitor that detects server unavailability if the state identifier is unchanged for a predetermined time.
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14. An article of manufacture, comprising:
- a computer-usable medium;
 - a set of computer operating instructions embodied on the medium, including instructions for a method of managing browser sessions, comprising instructions for:

receiving a request for a web page from a client, the client having a browser session established at another server; and

providing a web page including a heartbeat page element that transmits heartbeat messages to another server to maintain a state of the browser session at the another server.

15. An article of manufacture, comprising:

a computer-usable medium;

a set of computer operating instructions embodied on the medium, including instructions for managing browser sessions, comprising instructions for:

establishing a browser session at a first server, resulting in generation of a session state at the first server;

redirecting from the browser session at the first server to a web page at a second server;

receiving the web page from the second server, the web page including a heartbeat page element; and

transmitting heartbeat messages from the heartbeat page element to the first server to maintain a state of the browser session while continuing to communicate with the second server.

16. An article of manufacture, comprising:

a computer-usable medium;

a set of computer operating instructions embodied on the medium, including instructions for managing browser sessions, comprising instructions for:

providing a web page including a page identifier and a monitor that detects user inactivity if the page identifier is unchanged for a predetermined time.

17. An article of manufacture, comprising:
 - a computer-usable medium;
 - a set of computer operating instructions embodied on the medium, including
- 5 instructions for managing browser sessions, comprising instructions for:
 - providing a web page including page content having a state identifier
 - and a monitor that detects server unavailability if the state identifier is
 - unchanged for a predetermined time.
- 10 18. A computer data signal embodied on a carrier wave comprising a code segment for managing browser sessions comprising instructions for
 - receiving a request for a web page from a client, the client having a browser
 - session established at another server; and
 - providing a web page including a heartbeat page element that transmits
- 15 heartbeat messages to another server to maintain a state of the browser session at the another server.
19. A computer data signal embodied on a carrier wave comprising a code segment for managing browser sessions comprising instructions for
 - establishing a browser session at a first server, resulting in generation of a
 - session state at the first server;
 - redirecting from the browser session at the first server to a web page at a
 - second server;
 - receiving the web page from the second server, the web page including a
- 20 heartbeat page element; and
 - transmitting heartbeat messages from the heartbeat page element to the first
 - server to maintain a state of the browser session while continuing to communicate
 - with the second server.
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20. A computer data signal embodied on a carrier wave comprising a code segment for managing browser sessions comprising instructions for
providing a web page including a page identifier and a monitor that detects
5 user inactivity if the page identifier is unchanged for a predetermined time.
21. A computer data signal embodied on a carrier wave comprising a code segment for managing browser sessions comprising instructions for
providing a web page including page content having a state identifier and a
10 monitor that detects server unavailability if the state identifier is unchanged for a predetermined time.